



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/673,411	09/30/2003	Junichiro Suzuki	031128	2707

23850 7590 05/16/2006

ARMSTRONG, KRATZ, QUINTOS, HANSON & BROOKS, LLP
1725 K STREET, NW
SUITE 1000
WASHINGTON, DC 20006

EXAMINER

WARTALOWICZ, PAUL A

ART UNIT	PAPER NUMBER
----------	--------------

1754

DATE MAILED: 05/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/673,411

Applicant(s)

SUZUKI ET AL.

Examiner

Paul A. Wartalowicz

Art Unit

1754

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 4/25/06.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 2 and 5-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2 and 5-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claim 1, 2, and 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al. (U.S. 6591871) in view of Lee et al. (U.S. 6733854) and Kawazura et al (U.S. 6179008).

Smith et al. teaches a fuel hose (col. 3, lines 20-23) comprising at least one constituent layer including an inner layer, at least the inner layer comprising a polyester resin (col. 3, lines 60-63). Smith et al. fails to teach particles each having a core-shell structure, the particles being present in a proportion of 5 to 60 parts by weight based on

Art Unit: 1754

100 parts by weight of the polyester resin and wherein layers other than the layer comprising the first polyester resin and the particles comprising a polyester resin material.

As to the limitation wherein particles each having a core-shell structure, the particles being present in a proportion of 5 to 60 parts by weight based on 100 parts by weight of the polyester resin, Lee et al., however, teaches a polyamide resin composition comprising polybutylene terephthalate (col. 4, line 24) further comprising core-shell rubber system (col. 2, lines 15-18) comprising 0.5-10 weight% of mixture for the purpose of yielding gasoline resistance (col. 1, line 66) and flexibility under cold environment (col. 2, lines 18-20).

Lee et al. further teaches that core-shell resin composition has excellent gasoline resistance and impact resistance under cold environment which is applicable to a fuel tube system for a motor vehicle (col. 1, lines 9-12).

Therefore, one of ordinary skill in the art would have recognized that the core-shell resin composition is advantageous for use in a fuel tube system for the purpose of providing gasoline resistance (col. 1, line 66) and flexibility under cold environment (col. 2, lines 18-20).

Thus, it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to have provided a core-shell resin composition comprising polybutylene terephthalate of Lee et al. as the material of the inner layer of Smith et al. in order to provide gasoline resistance and flexibility under cold environment as taught by Lee et al.

As to claim 2, Smith et al. teaches that the inner layer is made conductive by the addition of a conductive agent (col. 3, lines 63-65).

As to the limitation wherein layers other than the layer comprising the first polyester resin and the particles comprising a polyester resin material, Kawazura et al. teaches that it is well known in the resin hose art for a resin hose to composed of a polyester thermoplastic elastomer including polybutylene terephthalate as a hard segment and polytetramethylene glycol as a soft segment for the purpose of improving the flexibility of a thermoplastic resin (col. 2, lines 24-31).

Since Smith et al. requires that the tube is flexible enough to be shaped in any configuration (col. 3, lines 39-40), one of ordinary skill in the art would have recognized to replace the polyethylene of the tie layer of Smith et al. and Lee et al. with polyester thermoplastic elastomer of Kawazura et al. to improve the flexibility of a thermoplastic resin as taught by Kawazura et al.

Therefore, it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to have provided polyester in the tie layer of Smith et al. in order to improve the flexibility of a thermoplastic resin as taught by Kawazura et al.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al. (U.S. 6591871) in view of Lee et al. (U.S. 6733854) in further view of Kawazura et al. (U.S. 6179008) and Shah et al. (U.S. 2003/0017329).

Smith et al. teach a fuel hose as described above in claim 1. Smith et al. fail to teach wherein layers other than the layer comprising the first polyester resin and the particles comprising a polyester resin material and wherein the intermediate layer has an outer peripheral surface subjected to an electric discharge treatment wherein a layer provided on the outer peripheral surface of the intermediate layer essentially comprises an amine-rich resin.

As to the limitation wherein layers other than the layer comprising the first polyester resin and the particles comprising a polyester resin material, Kawazura et al. teaches that it is well known in the resin hose art for a resin hose to composed of a polyester thermoplastic elastomer including polybutylene terephthalate as a hard segment and polytetramethylene glycol as a soft segment for the purpose of improving the flexibility of a thermoplastic resin (col. 2, lines 24-31).

Since Smith et al. requires that the tube is flexible enough to be shaped in any configuration (col. 3, lines 39-40), one of ordinary skill in the art would have recognized to replace the polyethylene of the tie layer of Smith et al. and Lee et al. with polyester thermoplastic elastomer of Kawazura et al. to improve the flexibility of a thermoplastic resin as taught by Kawazura et al.

Therefore, it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to have provided polyester in the tie layer of Smith et al. in order to improve the flexibility of a thermoplastic resin as taught by Kawazura et al.

As to the limitation wherein the outer peripheral surface of the intermediate layer essentially comprises an amine rich-resin, Shah et al. teach a multi-layer thermoplastic polymer (paragraph 0001, lines 1-4) wherein it is known for a tie layer to comprise an amine for the purpose of adding a reactive functional group (paragraph 0036, lines 6-9).

Therefore, it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to provide wherein it is known for a tie layer to comprise an amine for the purpose of adding a reactive functional group (paragraph 0036, lines 6-9) as taught by Shah et al.

As to the limitation wherein the intermediate layer has an outer peripheral surface subjected to an electric discharge treatment, it appears that the instantly claimed product by process is the same as that which is claimed (a layer provided on the outer peripheral surface of the intermediate layer made by subjecting to an electric discharge treatment). When the examiner has found a substantially similar product as in the applied prior art, the burden of proof is shifted to the applicant to establish that their product is patentably distinct and not the examiner to show the same process of making. *In re Fessman*, 180 USPQ 324.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al. (U.S. 6591871) in view of Lee et al. (U.S. 6733854) in further view of Kawazura et al (U.S. 6179008) and Gilbert et al. (U.S. 3111418) and Han et al. (U.S. 5378404).

Smith et al. teach a fuel hose as described above in claim 1. Smith et al. fail to teach wherein layers other than the layer comprising the first polyester resin and the

particles comprising a polyester resin material and wherein the intermediate layer has an outer peripheral surface subjected to an electric discharge treatment wherein a layer provided on the outer peripheral surface of the intermediate layer essentially comprises an amine-rich resin.

As to the limitation wherein layers other than the layer comprising the first polyester resin and the particles comprising a polyester resin material, Kawazura et al. teaches that it is well known in the resin hose art for a resin hose to composed of a polyester thermoplastic elastomer including polybutylene terephthalate as a hard segment and polytetramethylene glycol as a soft segment for the purpose of improving the flexibility of a thermoplastic resin (col. 2, lines 24-31).

Since Smith et al. requires that the tube is flexible enough to be shaped in any configuration (col. 3, lines 39-40), one of ordinary skill in the art would have recognized to replace the polyethylene of the tie layer of Smith et al. and Lee et al. with polyester thermoplastic elastomer of Kawazura et al. to improve the flexibility of a thermoplastic resin as taught by Kawazura et al.

Therefore, it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to have provided polyester in the tie layer of Smith et al. in order to improve the flexibility of a thermoplastic resin as taught by Kawazura et al.

As to the limitation wherein the intermediate layer has an outer peripheral surface subjected to an electric discharge treatment wherein a layer provided on the outer peripheral surface of the intermediate layer essentially comprises an amine-rich resin,

Art Unit: 1754

Gilbert et al., however, teach a process for the treatment of polyolefin packaging materials (col. 1, lines 8-16) wherein polyethylene imine is disposed between plastic sheets for the purpose of promoting adhesion of extruded polyethylene by the process of an electrical treatment (col. 4, lines 19-25).

Han et al. teach a coating (col. 1, lines 17-21) wherein it is known to use an amine or an imine as an electrically conductive material characterized by a charged backbone, which may be formed by a partial or complete protonation thereof (col. 7, lines 60-64).

Therefore, it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to provide wherein an amine/imine is disposed between plastic sheets in Smith et al. in order to promote adhesion of extruded polyethylene by the process of an electrical treatment (col. 4, lines 19-25) as taught by Gilbert et al. and for the reasoned explanation that it is known to use an amine or an imine as an electrically conductive material characterized by a charged backbone, which may be formed by a partial or complete protonation thereof (col. 7, lines 60-64) as taught by Han et al.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul A. Wartalowicz whose telephone number is (571) 272-5957. The examiner can normally be reached on 8:30-6 M-Th and 8:30-5 on Alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached on (571) 272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Paul Wartalowicz
May 10, 2006



COLLEEN P. COOKE
PRIMARY EXAMINER